

## Influences on Housing Cost Burden of the U.S. Households by Current and Previous Housing Tenure Types

*The purpose of this study was to investigate housing cost burden of U.S. households according to current and previous tenure types and explore influences on their housing affordability. The public-use microdata of the 2009 American Housing Survey was analyzed in the following two stages: In the first stage, households were classified into eight groups by combining their current and previous tenure types, year moved into current housing units and mortgage status of current owners and their characteristics were compared. In the second stage, the factors that influenced the housing cost burden by each combined tenure group were explored using multiple regression analyses. The findings are as follows: (1) The mortgage status was more influential than the previous housing experiences of owner households to distinguish one owner household from another. (2) Renter households who had been owners of previous housing units showed significantly different characteristics compared to continuing and new renter households in terms of income, educational attainment, and householder's marital status as well as housing costs and housing cost burdens. (3) To see the multiple regression analysis results, households with different current and previous tenure types were found to have different factors that influenced the housing cost burdens. In addition, household characteristics were found to have significant influences on housing cost burdens as strong as cost-related variables such as annual mortgage payments and rent per square footage.*

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Housing has diverse meanings to its residents from shelter providing security and protection, a place where the most important life events happen, where social relationships started to be structured, a place of self-expression, and a reflection of social and cultural values. Of course, a house also plays an important role as a financial asset for homeowners and is often considered as a reflection of the household's socio-economic status. Housing contains diverse and important meanings; in addition, the stability of housing occupancy is closely related to a household's life stability. Housing affordability, which refers to a household's ability to pay costs related to housing without negotiating other basic needs, is a major determinant of housing stability for most households. Thus, it is very important for a household to obtain and secure housing affordability as it is critical to housing stability, a precursor to life stability and quality. To see the recent trends in the U.S. housing market, however, it is found that housing stability of the U.S. household is seriously threatened. Especially, the situation is worse for homeowners.

The purpose of this study was to investigate housing cost burden of the U.S. households according to their current and previous tenure types and explore influences on their housing affordability as reflected in the 2009 American Housing Survey. Housing cost burden, a percent of housing costs to the household income, was used as a measurement of housing affordability in this study. In addition to current housing tenure type, previous tenure types were combined to classify households to see if

previous housing experience influenced housing affordability. In addition, previous tenure types were used to explore the characteristics of renter households who had dropped their previous homeownership considering the U.S. housing market situation since 2006 and who had never rented or owned a housing unit including young professionals such as recent college graduates living independent from their parents. The recent economic recession and housing market crisis began in 2006 and many U.S. homeowners started the foreclosure filing process because they could not afford mortgage payments.

## LITERATURE REVIEW

### *Housing Affordability and Housing Stability*

Housing affordability is the financial ability of a household to pay for housing without sacrificing other essential needs. Regardless of tenure types, the achievement and maintenance of housing affordability is important for quality of life. Paying too much of income on housing costs means there are less resource to use for other needs; subsequently, this often leads to physical and mental health issues (Newman, 2008; Pollack, Griffin, & Lynch, 2010; Schwartz, 2010) and negatively influences the well-being of children (Harkness & Newman, 2005). In many cases, the lack of housing affordability results in the failure to achieve housing stability. Some households need to move to a more affordable house usually of lower building standards, smaller size, and in less safe locations. Based on previous studies, Schwartz (2010) stresses that the frequent relocation of a household resulted from unstable housing situation causes mental stress to the households and have negative impacts on education and employment achievements.

Since the recent U.S. housing market crisis started in 2006, many homeowners had to give up their house because they could no longer afford mortgage payments due to upward interest rate adjustments. From 2006 to 2010, the percent of housing units under foreclosure for total housing units in the United State has doubled from 1.1 percent to 2.2 (RealtyTrac®, 2012); in addition,

some states showed extremely higher foreclosure rates. For example, 9.4 percent of housing units in Nevada had foreclosure filings in 2010. The foreclosure rate has decreased to 1.45 percent in 2011 after government efforts to assist homeowners struggling with mortgage payments. But there still are numerous households whose housing stability is in jeopardy.

### *Housing Cost Burden*

Housing cost burden is one of the most frequently used measurements for housing affordability in housing and urban studies which is a percentage of housing cost to the household's income. The definitions of a household with a housing cost burden differ by researchers depending on the cut values (e.g., 25% or 30%). In general, households that spend 30 percent or more of their income on housing costs are considered to be households with a housing cost burden. Some researchers like the Joint Center for Housing Studies of Harvard University (JCHS) classify households with no or negative income also as households with a housing cost burden regardless of the housing cost burden ratio (JCHS, 2011). Households spending 50 percent or more of their income on housing costs are further classified as households with severe a housing cost burden in some research studies.

According to American Community Survey (ACS) findings, the percentage of housing cost burdened households among total U.S. households has increased over years. In 2010, 38 percent of homeowners with a mortgage and 53 percent of renters reported that they paid 30 percent or more of household income towards housing costs. Homeowners who do not service a mortgage showed the lowest housing cost burden. JCHS (2011) states that there were 19.4 million households in the United States (17.1%) with a severe housing cost burdened that spent 50 percent or more of their income on housing costs in 2009. It was also indicated that four fifths of the severely burdened households remained severely burdened since 2001.

### *Recent Studies on Housing Affordability*

A recent study by JCHS (2011) is the most comprehensive housing study to deal with diverse

U.S. housing issues that include housing affordability for homeowners and renters. This study showed that 19.4 million U.S. households (9.3 million homeowners and 10.1 million renters) housing cost burdened to pay 50 percent or more of income towards housing in 2009 and 26.1 percent of renters had a severe housing cost burden compared to 12.4 percent in the case of homeowners. DeVaney, Chiremba and Vincent (2004) grouped respondents of a 2001 Survey on Consumer Finance by lifecycle stages and tenure types; subsequently, they compared the housing cost burden across multiple groups. They found that singles and households headed by single parents had more housing affordability problems than couples with children for both homeowners and renters Pollack, Griffin and Lynch (2010) approached housing affordability and residents' health by tenure types. They compared the relationship of self-rated health and housing affordability for homeowners and renters. They found that housing affordability was associated with the health of residents and the level of association for renters was stronger than for homeowners.

Most housing affordability studies have only focused on homeowners (Acquaye, 2011) or on renters (Turk, 2004; Collison & Winter, 2010; Williamson, 2011) and some research studies used tenure type as one of the variables measuring housing affordability (Lee, 2012). It is difficult to find housing studies that focus on a comparison of housing affordability by tenure type or studies that included previous tenure history as a housing affordability measurement. Compared to previous housing affordability studies, the significance of this study was to use current and previous tenure types to understand housing affordability issues.

## METHODOLOGY

### *Instrument*

This study used secondary data. Public-use microdata set of the 2009 American Housing Survey (AHS) was used for the study. The American Housing Survey is a national housing unit survey that the U.S. Department of Housing and Urban

Development sponsors and the U.S. Census Bureau conducts. In the 2009 American Housing Survey, interview results from around 55,000 housing units were included (U.S. Census Bureau, 2011). According to the 2009 American Community Survey findings, it was estimated that there were 129,949,960 housing units in the United States in 2009 with 113,616,229 units (87.4%) occupied. Housing units included in the 2009 AHS represent about 0.04 percent of total housing units and 0.05 percent of total occupied units in 2009.

### *Sample*

This study identified the housing cost burden of households by current and previous tenure types. Among the housing units included in the 2009 AHS microdata, there were 38,215 households whose current and previous tenure types and recent move-in year were identifiable. Among them, there were households that reported no or negative income and whose housing costs were more than their household income. They were found not suitable for this study and excluded from the data analyses because their housing cost burden was overly complicated to explain in conjunction with other households. Finally, 35,575 households whose current and previous tenure types and move-in year identifiable with an annual income \$1 or more and housing costs that did not exceed household income were selected for the data analyses.

### *Definitions*

*Housing costs* In the 2009 AHS, monthly housing costs were defined as the sum of monthly costs of mortgage payments, required mortgage fees, other mortgage charges, rent payments, cost of homeowner insurance, real estate taxes, condominium/homeowner's association fee, land/site rent, and utility costs (U.S. Department of Housing and Urban Development, 2011).

*Household with housing cost burden* Definition of household with housing cost burden varies by researchers depending on the cut-off values used. In this study, households whose housing costs were 30 percent or more of their household income were

defined as those with housing cost burden and those whose housing costs were 50 to 100 percent of their income were defined as households with severe housing cost burden for households with an annual income \$1 or more. As explained earlier, households with zero or negative income and those whose housing costs exceeded income were not included in the data analyses.

*Multifamily housing* Among the housing structure types, the definition of multifamily housing varies by researcher and statistical user. Multifamily housing buildings are divided into those with two or more units and buildings with five or more units; however, some only define the buildings with five or more units as multifamily housing. In this study, all multi-unit buildings with two or more units were considered as multifamily housing structures to simplify the data analyses.

#### *Data Analyses*

Data from the final 35,575 households were analyzed in the following two stages. In the first stage of data analyses, the households were classified into eight groups through a combination of their current and previous tenure types, year moved into current housing units and mortgage status of current owners. Subsequently, the household and housing characteristics were compared across the combined tenure groups using a series of one-way analysis of variance (ANOVA) and chi-square independence tests. Previous tenure types were used in addition to the current tenure types to classify households with the recent U.S. housing market situation in mind; many homeowners have become renters. In the second stage, factors that influenced the housing cost burden by each combined tenure group were explored using multiple regression analyses. For the data analyses, Statistical Package for Social Sciences (SPSS) 17.0 was used.

## FINDINGS

### *Classification of Households*

In this study, households were classified based on

Table 1. *Combined Tenure Type*

Tenure type	<i>n</i>	%
Owner		
Continuing owner		
with mortgage	14,350	40.3
without mortgage	9,844	27.7
New owner		
with mortgage	1,243	3.5
without mortgage	260	0.7
Renter		
Continuing renter	7,539	21.2
Renter previously owner	787	2.2
New renter	1,398	3.9
Other	154	0.4
TOTAL	35,575	100.0

their current and previous tenure types, year moved into current housing unit and whether or not the previous housing unit right before the current one was owned or rented by current householders as reported in the 2009 AHS. In terms of previous tenure types, tenure types of housing units that the households occupied right before the current unit was used as the previous tenure type because the full the history of the previous tenure types was not included in the data. In addition, mortgage status was used to further classify homeowners. Subsequently, the U.S. owner and renter households were classified into eight tenure combination groups (Table 1).

“Continuing owners” in this study refers to homeowners who were the owners of previous housing units right before the current ones and owners who remained the owners of current housing for more than three years by the year of survey<sup>†</sup>. In contrast to the “continuing owners”, “new owners” refer to homeowners who were not previously homeowners. Households classified as “new owners” consist of homeowners who were previously renters of another rental housing unit or occupants without any rental payments and who previously lived in housing units owned or rented by someone other

<sup>†</sup>Households who moved into current housing unit before 2006

than current householders.

“Continuing renters” include renters who were previously renters of other rental housing units or renters who remained as renters of current housing for more than three years by the year of survey. “Renter previously owners” refers to renters who were owners of previous housing units right before current place of residency. Households in “new renters” group include renters who were previously occupants without any payment of rent and renters who previously lived in a housing units owned or rented by someone other than current householders. Households includes in the “other” category are households who occupy their housing units without paying any rent regardless of previous tenure types.

Among the households classified, continuing owner households with mortgages had the most number of households; these formed, 40.3 percent of the total 35,575 target households followed by continuing owners without mortgage (27.7%) and continuing renters (21.2%). Occupying a housing unit without any rental payment is not a typical tenure type compared to owning or renting in the

United States, and households in “other” tenure combination group formed only 0.4 percent of the target households. They were found not appropriate to be treated as one homogeneous group and 154 households classified into “other” tenure combination group were excluded from further data analyses. As results, responses from 35,421 owner and renter households were used in for the rest of data analysis procedures. Refer to Table 2 and Table 3 for the final 35,421 households by their combined tenure types.

Acquiring appropriate housing space for each household member is one of the important housing norms for American households (Morris & Winter, 1975, 1978). As measurements of housing density, square footage per person and persons per bedroom were calculated from existing variables. According to 2010 American Community Survey<sup>‡</sup>, 49.5 percent of total occupied housing units used utility gas as the main heating fuel and 34.5 percent used electricity. In comparing housing costs, monthly electricity and gas costs were included as major home energy expenditures.

Table 2. Overview of Target Households: Means and Ranges

Characteristic	<i>n</i>	Mean	S.D.	Minimum	Maximum
Household characteristics					
Household size (person)	35,421	2.56	1.4	1	14
Age of householder (year)	35,421	51.93	16.7	18	93
Household annual income (\$)	35,421	72,630.65	69,927.9	800	852,840
Housing characteristics					
Structure age (year)	35,421	42.64	26.1	0	90
Bedrooms in unit (room)	35,416	2.84	1.0	0	9
Unit size (ft <sup>2</sup> )	32,202	1,970.10	2,288.0	99	24,870
Unit square footage per person (ft <sup>2</sup> /person)	32,202	960.38	1,342.4	10.00	24,870.00
Persons per bedroom (persons/BR)	35,186	0.96	0.5	.13	7.00
Housing cost					
Monthly housing costs (\$)	35,421	1,211.68	1,001.5	0	13,803
Monthly cost of electricity and gas (\$)	35,421	181.06	113.4	0	988
Electricity and gas cost / Household income (%)	35,421	5.10	5.5	0	75.54
Annual cost of electricity and gas / Unit size (\$/ft <sup>2</sup> )	32,779	1.4	1.6	0	85
Housing cost burden (%) <sup>*</sup>	35,421	27.32	18.9	.00	100

<sup>\*</sup> Housing cost burden (%) = {(Monthly housing cost × 12) / Household annual income} × 100. Mean of housing cost burden was calculated only for households with an annual income \$1 or more.

<sup>‡</sup>Information from <http://factfinder2.census.gov> was combined to obtain the statistics.

Table 3. Overview of Target Households: Frequencies

Characteristic	<i>n</i>	%
Home structure type		
Single-family housing	26,132	73.8
Multifamily housing	7,676	21.7
Manufactured or mobile home	1,613	4.6
TOTAL	35,421	100.0
Metropolitan location		
Inside MSA <sup>A</sup>	7,210	20.4
Outside MSA <sup>A</sup>	28,211	79.6
TOTAL	35,421	100.0
Housing cost burden		
Not burdened	23,710	66.9
Burdened <sup>B</sup>	7,468	21.1
Severely burdened <sup>C</sup>	4,243	12.0
TOTAL	35,421	100.0

Note. Percentages are valid percentages within each characteristic.

<sup>A</sup> Metropolitan statistical area (MSA) defined in 2009 American Housing Survey

<sup>B</sup> Households with annual income \$1 or more spending 30-49.99% of their income on housing costs

<sup>C</sup> Households with annual income \$1 or more spending 50-100% of their income on housing costs

#### *Characteristics of Households by Combined Tenure Types*

Household characteristics were compared across the seven tenure combination groups using one-way ANOVA and chi-square tests of independence with a contingency table. Household size, age of householder and household annual income were also recoded as categorical variables and compared across tenure combination groups using one-way ANOVA with Duncan's posthoc tests (Table 4). Regarding household size, continuing and new owner households with a mortgage showed a greater household size than continuing and new owner households without mortgage and renter households regardless of the previous tenure types. Renter households and continuing and new owner households without mortgages tended to have a greater proportion of single-person households when the household size was categorized and categorically compared in a separate analysis using a chi-square test of independence; this might have contributed to the

smaller household size. In addition, continuing owner households without mortgages showed the least proportion of households with three or more persons among the seven combined tenure groups.

Continuing owner households showed the greatest average age of householders while householders of a new owner and new renter households were the youngest. When the age of householders was categorized and categorically compared in a separate analysis using a chi-square test of independence, continuing owner households without mortgage had the greatest proportion of householders aged 60 years or older comprising 64 percent of total households in the tenure group. The percentage of households with householder age 60 years or above among the 35,421 target households was 34 percent. Continuing owner households with a mortgage showed the greatest proportion of householders in their 40s and 50s. New owner households regardless of mortgage status and renter households regardless of their previous tenure type showed great proportion of households headed by person under age 40. Especially, householders of three quarters of new renter households were found to be under 40 years of age and households with householders under 30 years of age comprised 54 percent of the new renter households.

Continuing and new owner households with a mortgage tended to have highest household income and more than 70 percent of the households had an annual income \$50,000 or more. Renter households regardless of their previous tenure type showed the lowest income level. Among the renter households, 7.4 percent of continuing renter households and 6.9 percent of new renter households had annual income less than \$10,000.

Householder gender, educational level, marital status, race, and Hispanic origin were compared across the combined tenure groups (Table 5). Race and Hispanic householder were compared because these two characteristics were proven as significant influences on housing tenure and affordability of U.S. households. Regardless of previous tenure types, there were more male-headed households among the current owner households; however, more renter households were headed by females. Continuing and

Table 4. Household Size, Householder's Age and Household Income by Combined Tenure Types: Means

Item	n	Mean by homogeneous subsets with Duncan's test ( $p < .000$ )						
		a	b	c	d	e	f	g
Household size (persons) <sup>A</sup>								
Continuing owner with mortgage	14,350	2.95						
Continuing owner without mortgage	9,844					2.16		
New owner with mortgage	1,243		2.66					
New owner without mortgage	260			2.35	2.35			
Continuing renter	7,539			2.40				
Renter previously owner	787			2.28	2.28	2.28		
New renter	1,398				2.24	2.24		
Householder's age (years) <sup>B</sup>								
Continuing owner with mortgage	14,350		50.0					
Continuing owner without mortgage	9,844	64.5						
New owner with mortgage	1,243						36.7	
New owner without mortgage	260					42.8		
Continuing renter	7,539				45.9			
Renter previously owner	787			48.3				
New renter	1,398							32.9
Household annual income (\$) <sup>C</sup>								
Continuing owner with mortgage	14,350	98,405						
Continuing owner without mortgage	9,844			62,348				
New owner with mortgage	1,243		82,328					
New owner without mortgage	260				51,531			
Continuing renter	7,539					44,011		
Renter previously owner	787			57,151	57,151			
New renter	1,398					38,825		

<sup>A</sup>  $F(6, 35,414) = 360.901, p = .000 (p < .001)$

<sup>B</sup>  $F(6, 35,414) = 2,239.500, p = .000 (p < .001)$

<sup>C</sup>  $F(6, 35,414) = 717.321, p = .000 (p < .001)$

new owner households with mortgages and previously-owner renter households showed a greater proportion of households headed by persons with some college or a higher degree than other households. Especially, new owner households with a mortgage showed the greatest proportion of households headed by an individual whose educational attainment was a graduate degree or higher (15.8%). Nearly 56 percent of householders of new renter households and 35 percent of householders of continuing renter households were never married. Renter households were previously owners that

showed the greatest proportion of households headed by persons divorced, widowed, or separated (45.5%) followed by new owner households without a mortgage (34.6%), continuing owner households without a mortgage (34.3%), and continuing renter households (33.9%). To compare racial composition and Hispanic householders, new renter households and continuing renter households formed the smallest proportion of households with White householders and the greatest proportion of households headed by Black householders or Hispanic householders of any race.

Table 5. *Householder Gender, Educational Attainment, Marital Status and Race by Combined Tenure Types*

Item	Combined tenure type <sup>A</sup>							TOTAL
	COM	CONM	NOM	NONM	CR	RPO	NR	
Gender of householder <sup>B</sup>								
Male	8,693 (60.6)	5,489 (55.8)	697 (56.1)	148 (56.9)	3,529 (46.8)	375 (47.6)	656 (46.9)	19,587 (55.3)
Female	5,657 (39.4)	4,355 (44.2)	546 (43.9)	112 (43.1)	4,010 (53.2)	412 (52.4)	742 (53.1)	15,834 (44.7)
TOTAL	14,350 (100.0)	9,844 (100.0)	1,243 (100.0)	260 (100.0)	7,539 (100.0)	787 (100.0)	1,398 (100.0)	35,421 (100.0)
Educational attainment of householder <sup>C</sup>								
High school diploma or lower	4,290 (29.9)	4,791 (48.7)	303 (24.4)	114 (43.8)	3,698 (49.1)	276 (35.1)	622 (44.5)	14,094 (39.8)
Some college or a bachelor's degree	7,842 (54.6)	3,948 (40.1)	744 (59.9)	121 (46.5)	3,309 (43.9)	420 (53.4)	711 (50.9)	17,095 (48.3)
Graduate degree or higher	2,218 (15.5)	1,105 (11.2)	196 (15.8)	25 (9.6)	532 (7.1)	91 (11.6)	65 (4.6)	4,232 (11.9)
TOTAL	14,350 (100.0)	9,844 (100.0)	1,243 (100.0)	260 (100.0)	7,539 (100.0)	787 (100.0)	1,398 (100.0)	35,421 (100.0)
Marital status of householder <sup>D</sup>								
Never married	1,211 (8.4)	805 (8.2)	328 (26.4)	75 (28.8)	2,611 (34.6)	107 (13.6)	776 (55.5)	5,913 (16.7)
Married	10,331 (72.0)	5,660 (57.5)	691 (55.6)	95 (36.5)	2,371 (31.4)	322 (40.9)	292 (20.9)	19,762 (55.8)
Divorced, widowed or separated	2,808 (19.6)	3,379 (34.3)	224 (18.0)	90 (34.6)	2,557 (33.9)	358 (45.5)	330 (23.6)	9,746 (27.5)
TOTAL	14,350 (100.0)	9,844 (100.0)	1,243 (100.0)	260 (100.0)	7,539 (100.0)	787 (100.0)	1,398 (100.0)	35,421 (100.0)
Race of householder <sup>E</sup>								
White	12,399 (86.4)	8,737 (88.8)	995 (80.0)	212 (81.5)	5,425 (72.0)	656 (83.4)	1,043 (74.6)	29,467 (83.2)
Black	1,201 (8.4)	752 (7.6)	118 (9.5)	31 (11.9)	1,463 (19.4)	90 (11.4)	256 (18.3)	3,911 (11.0)
Other	750 (5.2)	355 (3.6)	130 (10.5)	17 (6.5)	651 (8.6)	41 (5.2)	99 (7.1)	2,043 (5.8)
TOTAL	14,350 (100.0)	9,844 (100.0)	1,243 (100.0)	260 (100.0)	7,539 (100.0)	787 (100.0)	1,398 (100.0)	35,421 (100.0)
Hispanic householder <sup>F</sup>								
Hispanic origin of any race	1,319 (9.2)	624 (6.3)	125 (10.1)	33 (12.7)	1,425 (18.9)	82 (10.4)	288 (20.6)	3,896 (11.0)
Non-Hispanic origin	13,031 (90.8)	9,220 (93.7)	1,118 (89.9)	227 (87.3)	6,114 (81.1)	705 (89.6)	1,110 (79.4)	31,525 (89.0)
TOTAL	14,350 (100.0)	9,844 (100.0)	1,243 (100.0)	260 (100.0)	7,539 (100.0)	787 (100.0)	1,398 (100.0)	35,421 (100.0)

Note. Numbers in parentheses are valid percentages within each combined tenure type.

<sup>A</sup> COM (continuing owner with mortgage), CONM (continuing owner with no mortgage), NOM (new owner with mortgage), NONM (new owner with no mortgage), CR (continuing renter), RPO (renter previously owner), NR (new renter)

<sup>B</sup>  $\chi^2(6, N = 35,421) = 441.309, p = .000 (p < .001)$     <sup>C</sup>  $\chi^2(12, N = 35,421) = 1,507.792, p = .000 (p < .001)$

<sup>D</sup>  $\chi^2(12, N = 35,421) = 6,413.973, p = .000 (p < .001)$     <sup>E</sup>  $\chi^2(12, N = 35,421) = 1,173.106, p = .000 (p < .001)$

<sup>F</sup>  $\chi^2(6, N = 35,421) = 881.052, p = .000 (p < .001)$



Table 6. Housing Structure Type and Metropolitan Location by Combined Tenure Type

Item	Combined tenure type <sup>A</sup>							TOTAL
	COM	CONM	NOM	NONM	CR	RPO	NR	
Structure type <sup>B</sup>								
Single-family housing (detached and attached)	13,323 (92.8)	8,499 (86.3)	1,091 (87.8)	166 (63.8)	2,370 (31.4)	342 (43.5)	341 (24.4)	26,132 (73.8)
Multifamily housing	616 (4.3)	515 (5.2)	103 (8.3)	17 (6.5)	4,986 (66.1)	425 (54.0)	1,014 (72.5)	7,676 (21.7)
Manufactured (mobile) home	411 (2.9)	830 (8.4)	49 (3.9)	77 (29.6)	183 (2.4)	20 (2.5)	43 (3.1)	1,613 (4.6)
TOTAL	14,350 (100.0)	9,844 (100.0)	1,243 (100.0)	260 (100.0)	7,539 (100.0)	787 (100.0)	1,398 (100.0)	35,421 (100.0)
Metropolitan location <sup>C</sup>								
Inside MSA <sup>D</sup>	11,741 (81.8)	6,990 (71.0)	1,033 (83.1)	196 (75.4)	6,475 (85.9)	627 (79.7)	1,149 (82.2)	28,211 (79.6)
Outside MSA <sup>D</sup>	2,609 (18.2)	2,854 (29.0)	210 (16.9)	64 (24.6)	1,064 (14.1)	160 (20.3)	249 (17.8)	7,210 (20.4)
TOTAL	14,350 (100.0)	9,844 (100.0)	1,243 (100.0)	260 (100.0)	7,539 (100.0)	787 (100.0)	1,398 (100.0)	35,421 (100.0)
Urbanity <sup>E</sup>								
Urban	10,032 (69.9)	6,153 (62.5)	961 (77.3)	187 (71.9)	6,587 (87.4)	619 (78.7)	1,226 (87.7)	25,765 (72.7)
Rural	4,318 (30.1)	3,691 (37.5)	282 (22.7)	73 (28.1)	952 (12.6)	168 (21.3)	172 (12.3)	9,656 (27.3)
TOTAL	14,350 (100.0)	9,844 (100.0)	1,243 (100.0)	260 (100.0)	7,539 (100.0)	787 (100.0)	1,398 (100.0)	35,421 (100.0)
Region <sup>F</sup>								
Northeast	3,154 (22.0)	2,186 (22.2)	229 (18.4)	47 (18.1)	2,050 (27.2)	117 (14.9)	251 (18.0)	8,034 (22.7)
Midwest	4,151 (28.9)	2,658 (27.0)	342 (27.5)	73 (28.1)	1,589 (21.1)	215 (27.3)	342 (24.5)	9,370 (26.5)
South	4,338 (30.2)	3,584 (36.4)	426 (34.3)	94 (36.2)	2,060 (27.3)	276 (35.1)	493 (35.3)	11,271 (31.8)
West	2,707 (18.9)	1,416 (14.4)	246 (19.8)	46 (17.7)	1,840 (24.4)	179 (22.7)	312 (22.3)	6,746 (19.0)
TOTAL	14,350 (100.0)	9,844 (100.0)	1,243 (100.0)	260 (100.0)	7,539 (100.0)	787 (100.0)	1,398 (100.0)	35,421 (100.0)

Note. Numbers in parentheses are valid percentages within each combined tenure type.

<sup>A</sup> COM (continuing owner with mortgage), CONM (continuing owner with no mortgage), NOM (new owner with mortgage), NONM (new owner with no mortgage), CR (continuing renter), RPO (renter previously owner), NR (new renter)

<sup>B</sup>  $\chi^2(12, N = 35,421) = 16,493.802, p = .000 (p < .001)$  <sup>C</sup>  $\chi^2(6, N = 35,421) = 693.667, p = .000 (p < .001)$

<sup>D</sup> MSA: Metropolitan statistical area used in the 2009 American Housing Survey

<sup>E</sup>  $\chi^2(6, N = 35,421) = 1,576.829, p = .000 (p < .001)$

<sup>F</sup>  $\chi^2(18, N = 35,421) = 615.383, p = .000 (p < .001)$ . Census region: Northeast region includes Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania. Midwest region includes Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas. South region includes Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas. West region includes Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, and Hawaii.

The majority of owner households resided in single-family structures; however, there were more renter households in multifamily structures. The findings are consistent with national statistics that indicate tenure type in the United States is closely associated with the housing structure type: More single-family structures were occupied by owners; however, more multifamily structures were occupied by renters. According to the 2010 American Community Survey<sup>§</sup>, 83 percent of housing units in a single-family detached or attached structures were occupied by owners and 86 percent of housing units in structures with two or more units were occupied by renters. New owner households without a mortgage formed a distinctively greater proportion of the households living in manufactured or mobile homes and comprised nearly 30 percent of households in this tenure combination group. Continuing and new owner households without a mortgage formed a greater proportion of the households that lived outside metropolitan areas than the households in other tenure combination groups. Refer to Table 6 for comparisons of home structure types and metropolitan location across the combined tenure groups.

Age of housing structures, size of housing units, square footage per person and persons per bedroom were compared across the combined tenure groups using one-way ANOVA with Duncan's posthoc tests (Table 7). New owner households with mortgages tended to live in the newest structures while continuing and new renter households as well as continuing owner households with a mortgage lived in the oldest structures. Owner households were found to live in larger units with more bedrooms than renter households regardless of their previous tenure types or mortgage status. Owner households tended to have less density than renter households did in general. Continuing owner households without mortgages were found to have the least density, which meant the largest space per person and the least number of household members per room. Renter households were found to fail in

acquiring one bedroom for each household member.

Housing cost including total monthly housing costs, monthly electricity and gas costs, and housing cost burden were compared across the combined tenure groups using one-way ANOVA with Duncan's posthoc tests (Table 8). As results, it was found that continuing and new owner households with mortgages spent the greatest amount on housing costs while continuing and new owner households without a mortgage spent the least.

Compared to continuing and new renter households, renter households who had owned previous housing units spent a greater amount on housing costs. Regardless of previous tenure type or current mortgage status, owner households tended pay higher energy costs than renter households. Owner households had greater sized housing units and a larger number of rooms and may be the reason for higher energy costs due to larger unit sizes to heat in the winter or cool in the summer. Regarding housing cost burden that were the percentage of housing costs related to household income, new renter households showed the greatest housing cost burden and spending average 36.7 percent of household income on housing, followed by continuing renter household spending of 33.7 percent. Continuing and new owner households without a mortgage showed the lowest housing cost burden.

When the housing cost burden was compared as a categorical variable using a chi-square test of independence (Table 9), more than half of new renter households were found to have housing cost burdened to spend 30 percent or more of their income on housing costs. Furthermore, one quarter of the new renter households had severe housing cost burden to spend 50 percent or more of income on housing costs. Continuing and new owner households who were free from mortgage payment obligations showed the least proportion of households with housing cost burden. The results of housing cost burden by tenure type were consistent with the findings of the American Community Survey that was introduced earlier in this study.

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<sup>§</sup>Information from <http://factfinder2.census.gov> was combined to obtain the statistics.

Table 7. Housing Structure Age, Size and Density by Combined Tenure Type

Item	n	Mean by homogeneous subsets with Duncan's test (p < .000)					
		a	b	c	d	e	f
<b>Structure age (years)<sup>A</sup></b>							
Continuing owner with mortgage	14,350			38.8			
Continuing owner without mortgage	9,844	45.8	45.8				
New owner with mortgage	1,243				33.9		
New owner without mortgage	260			38.9			
Continuing renter	7,539	47.7					
Renter previously owner	787			37.1			
New renter	1,398		44.2				
<b>Bedrooms in unit (rooms)<sup>B</sup></b>							
Continuing owner with mortgage	14,346	3.27					
Continuing owner without mortgage	9,843		3.01				
New owner with mortgage	1,243		3.05				
New owner without mortgage	260			2.73			
Continuing renter	7,539					2.03	
Renter previously owner	787				2.23		
New renter	1,398						1.88
<b>Unit size (ft<sup>2</sup>)<sup>C</sup></b>							
Continuing owner with mortgage	13,490	2,311					
Continuing owner without mortgage	9,053	2,160	2,160				
New owner with mortgage	1,179		2,015				
New owner without mortgage	237			1,765			
Continuing renter	6,322				1,210	1,210	
Renter previously owner	709				1,331		
New renter	1,212					1,090	
<b>Unit square footage per person (ft<sup>2</sup>/person)<sup>D</sup></b>							
Continuing owner with mortgage	13,490		971				
Continuing owner without mortgage	9,053	1,229					
New owner with mortgage	1,179		960				
New owner without mortgage	237		933				
Continuing renter	6,322			646	646		
Renter previously owner	709			754			
New renter	1,212				600		
<b>Persons per bedroom (persons/BR)<sup>E</sup></b>							
Continuing owner with mortgage	14,345			0.93			
Continuing owner without mortgage	9,836				0.75		
New owner with mortgage	1,239			0.89			
New owner without mortgage	260			0.90			
Continuing renter	7,368	1.22					
Renter previously owner	772		1.06				
New renter	1,366	1.25					

<sup>A</sup>  $F(6, 35,414) = 156.836, p = .000 (p < .001)$  <sup>B</sup>  $F(6, 35,409) = 1,947.872, p = .000 (p < .001)$

<sup>C</sup>  $F(6, 32,195) = 225.135, p = .000 (p < .001)$  <sup>D</sup>  $F(6, 32,195) = 139.066, p = .000 (p < .001)$

<sup>E</sup>  $F(6, 35,179) = 689.207, p = .000 (p < .001)$ . Only housing units with 1 or more bedrooms were included.

Table 8. Housing Cost and Housing Cost Burden by Combined Tenure Type

Item	n	Mean by homogeneous subsets with Duncan's test ( $p < .000$ )					
		a	b	c	d	e	f
Monthly housing costs (\$) <sup>A</sup>							
Continuing owner with a mortgage	14,350	1,799					
Continuing owner without a mortgage	9,844				598		
New owner with a mortgage	1,243	1,738					
New owner without a mortgage	260					480	
Continuing renter	7,539			910			
Renter previously owner	787		1,110				
New renter	1,398			857			
Monthly cost of electricity and gas (\$) <sup>B</sup>							
Continuing owner with a mortgage	14,350	218					
Continuing owner without a mortgage	9,844		189				
New owner with a mortgage	1,243		180	180			
New owner without a mortgage	260			175			
Continuing renter	7,539					119	
Renter previously owner	787				129		
New renter	1,398					112	
Electricity and gas cost/ Household income (%) <sup>C</sup>							
Continuing owner with a mortgage	14,350	4.01	4.01				
Continuing owner without a mortgage	9,844				6.78		
New owner with a mortgage	1,243	3.75					
New owner without a mortgage	260				7.10		
Continuing renter	7,539			5.14			
Renter previously owner	787		4.27				
New renter	1,398			5.48			
Annual cost of electricity and gas/unit size (\$/ft <sup>2</sup> ) <sup>D</sup>							
Continuing owner with a mortgage	13,497	1.44	1.44	1.44			
Continuing owner without a mortgage	9,069	1.41	1.41	1.41			
New owner with a mortgage	1,179	1.31					
New owner without a mortgage	237			1.55			
Continuing renter	6,539		1.48	1.48			
Renter previously owner	724	1.34	1.34				
New renter	1,234	1.43	1.43	1.43			
Housing cost burden (%) <sup>E</sup>							
Continuing owner with a mortgage	14,350				28.51		
Continuing owner without a mortgage	9,844					18.8	
New owner with a mortgage	1,243			30.8			
New owner without a mortgage	260						16.7
Continuing renter	7,539		33.7				
Renter previously owner	787			31.7			
New renter	1,398	36.7					

<sup>A</sup>  $F(6, 35,414) = 2,314.679, p = .000 (p < .001)$ <sup>B</sup>  $F(6, 35,414) = 860.483, p = .000 (p < .001)$ <sup>C</sup>  $F(6, 35,414) = 276.739, p = .000 (p < .001)$ <sup>D</sup>  $F(6, 32,472) = 3.329, p = .003 (p < .01)$ <sup>E</sup>  $F(6, 35,414) = 632.725, p = .000 (p < .001)$ . Housing cost burden (%) = {(Monthly housing cost  $\times$  12) / Household annual income}  $\times$  100. Only households with an annual income \$1 or more were included.

Table 9. *Housing cost Burden by Combined Tenure Type*

Housing cost burden <sup>B</sup>	Combined tenure type <sup>A</sup>							TOTAL
	COM	CONM	NOM	NONM	CR	RPO	NR	
Not burdened	9,420 (65.6)	8,167 (83.0)	723 (58.2)	219 (84.2)	4,037 (53.5)	463 (58.8)	681 (48.7)	23,710 (66.9)
Burdened <sup>C</sup>	3,305 (23.0)	1,090 (11.1)	363 (29.2)	29 (11.2)	2,115 (28.1)	194 (24.7)	372 (26.6)	7,468 (21.1)
Severely burdened <sup>D</sup>	1,625 (11.3)	587 (6.0)	157 (12.6)	12 (4.6)	1,387 (18.4)	130 (16.5)	345 (24.7)	4,243 (12.0)
TOTAL	14,350 (100.0)	9,844 (100.0)	1,243 (100.0)	260 (100.0)	7,539 (100.0)	787 (100.0)	1,398 (100.0)	35,421 (100.0)

Note. Numbers in parentheses are valid percentages within each combined tenure type.

<sup>A</sup> COM (continuing owners with mortgage), CONM (continuing owners with no mortgage), NOM (new owners with mortgage), NONM (new owners with no mortgage), CR (continuing renters), RPO (renters previously owners), NR (new renters)

<sup>B</sup>  $\chi^2(12, N = 35,421) = 2,205.552, p = .000$

<sup>C</sup> Households with an annual income \$1 or more spending 30%-49.99% of their income on housing costs

<sup>D</sup> Households with an annual income \$1 or more spending 50%-100% of their income on housing costs

#### *Influences on Housing cost Burden by Combined Tenure Type*

To explore the influences for the housing cost burden for households by combined tenure type, a series of multiple regression analyses with stepwise methods were used for continuing and new owner households with a mortgage and three groups of renter households. This study explored housing cost burden as a measurement of housing stability; however, continuing and new owner households without any mortgage showed the lowest housing cost burden and were excluded from the regression analysis.

The housing cost burden which was a percentage of housing costs to household income was a dependent variable. All categorical independent variables were recoded as dummy variables. In preliminary tests of independent variables, some categorical variables showed the interaction effect on housing cost burden for owner households with a mortgage or renter households. Thus, the interaction variables for those variables were generated as dummy variables and included as independent variables. Most independent variables were used for owner households and renter households, while some independent variables (related to housing costs) were only used for either one. Refer to Table 10 for the summary of results from the regression

analysis for each combined tenure group using a stepwise method. Only the results of the final stepwise models were presented to summarize the regression analyses results.

Among the 92 independent variables used for continuing and new owner households with a mortgage, a linear combination of 22 variables were found to explain 18.5 percent of the housing cost burden for continuing owner households with a mortgage. A linear combination of 12 variables explained 17.2 percent of the housing cost burden for new owner households with a mortgage. Among the 87 variables used for renter households, a linear combination of 20 variables explained 11.3 percent of the housing cost burden for continuing renter households. A linear combination of 11 variables explained 18.8 percent of housing cost burden for renter households who were previously owners, and a linear combination of nine variables explained 9.5 percent of housing cost burden for new renter households.

To see the standardized regression coefficients, the number of household members under 18 years of age was an influential characteristic for housing cost burden regardless of household tenure type. The more a household has members under 18 years of age then the greater the household's housing cost burden. This finding is consistent with findings from

Table 10. Summary of Multiple Regression Analyses: Housing cost Burden by Combined Tenure Types

	Combined tenure type <sup>A</sup>				
	COM	NOM	CR	RPO	NR
Model summary					
<i>n</i>	14,350	1,243	7,539	787	1,398
Number of independent variables included	22	12	20	11	9
R <sup>2</sup>	.185	.172	.113	.188	.095
ANOVA					
<i>F</i>	120.381	18.022	39.218	14.337	13.712
<i>p</i>	.000	.000	.000	.000	.000
Standardized regression coefficients (Beta)					
Household characteristics					
Household size	-.146	-.387	-.246	-.158	-
Number of household member under 18 years of age	.229	.396	.256	.206	.085
Age of householder	.167	.069	.094	.241	-
[D] Female householder	.027	-	.095	-	.128
[D] High school diploma or lower education	.353	-	-	-	-
[D] Some college or bachelor's degree	.145	-	-	-	-
[D] Graduate degree or higher education	-	-.131	-.167	-	-
[D] White householder	-	-	-.031	-	-
Housing characteristics					
Structure age	.044	-	-	-	-
Bedrooms in unit	-.065	-	-	-	-
Unit size	-.103	-	-.054	-	-
Unit square footage per person	.086	-	.080	-	-
Persons per bedroom	-	-	-	-	-.101
Housing costs					
Annual mortgage payment	.312	.278	n/a	n/a	n/a
Annual cost of homeowners insurance	-.032	-	n/a	n/a	n/a
Annual cost for routine maintenance	-	.098	n/a	n/a	n/a
Annual electricity & gas costs	.046	-	.133	-	.112
Rent per square footage	n/a	n/a	.079	.125	.132
Interaction variables					
[D] Male × Widowed, divorced or separated	-	-.104	-.050	-	-
[D] Female × Married	-	-	-.044	-	-
[D] Female × Widowed, divorced or separated	.070	-	-	.153	-
[D] Never married × Some college or bachelor's degree	-	-	.136	.136	-
[D] Widowed, divorced or separated × Grad degree or higher	-.025	-	-	-	-
[D] Married × Hispanic origin	-.051	-	-	-	-
[D] Married × Non-Hispanic origin	-.144	-.200	-.052	-	-.111
[D] High school diploma or lower × Inside MSA	-	.120	.090	.231	.192
[D] Some college or bachelor's degree × Inside MSA	-	-	.124	.124	-
[D] Graduate degree or higher × Inside MSA	-	-	.100	-	-
[D] High school diploma or lower × Single-family structure	-.093	-	.058	.100	-
[D] High school diploma or lower × Other structure types	-.052	-	.097	.097	-
[D] Some college or bachelor's degree × Other structure types	-	.062	-	-	-
[D] White householder × Single-family structure	-.083	-	-.036	-	-
[D] White householder × Multifamily structure	-	-	-.141	-.141	-
[D] White householder × Other structure types	-	-	.046	-	-
[D] Black householder × Single-family structure	-	-	.028	-	-
[D] Other race × Single-family structure	-	.095	-	-	-
[D] Black householder × Outside MSA	-	-	-	-	.057
[D] Hispanic origin × Inside MSA	.080	-	.078	-	-
[D] Hispanic origin × Outside MSA	-	.080	-	-	-
[D] Multifamily structure × Inside MSA	-.042	-	-	-	-
[D] Multifamily structure × Outside MSA	-	-	-	-	.061

Note. Only regression analysis results of the final stepwise model are presented by combined tenure types. Dependent variable was housing cost burden (%). Variables whose names starting with [D] are the dummy variables. In standardized coefficient results, n/a means the variable was not used.

<sup>A</sup> COM (continuing owners with mortgage), NOM (new owners with mortgage), CR (continuing renters), RPO (renters previously owners), NR (new renters)

a recent study by JCHS (JCHS, 2011). Interestingly, number of total household members was found to have a significant and negative impact on housing cost burden for most households except new renter households. The individual dummy variables of marital status and Hispanic householder, structure type, and metropolitan location showed no significant influence on housing cost burden when used with other variables in the multiple regression analyses; however, there were some interaction variables for these variables that were found to have a significant influence.

In the case of continuing owner households with a mortgage, the most influential characteristics on housing cost burden were the educational level of householders, the number of household members under 18 years of age, total amount of mortgage payments, and the age of the householder. Household size and whether or not headed by a married person of non-Hispanic origin also showed a strong negative impact on the housing cost burden for continuing households with a mortgage. As for new owner households with a mortgage, the number of household member age under 18 years of age, household size, total amount of mortgage payments and if headed by a married person of non-Hispanic origin were found to be most influential factors for housing cost burden. As for the housing cost burden for continuing renter households, the number of household members under 18 years of age, household size, householder's educational level, and if headed by male householder and living in a single-family structure were found to be the most influential factors. For housing cost burden for renter households that were previously owners, age of householder, if headed by a householder with a high school diploma or lower educational attainment and living in a metropolitan statistical area, number of household members under 18 years of age and household size were found to be the most influential factors. For housing cost burdens for new renter households, if headed by a householder with a high school diploma or lower educational attainment and living in a metropolitan statistical area was found to be the most influential factor, followed by rent per square footage.

## CONCLUSIONS

### *Summary of Findings*

This study investigated housing cost burden for U.S. households by current and previous tenure type and explored influences on housing affordability. This study used the public-use microdata of the 2009 American Housing Survey as secondary data. The findings are summarized as follows:

(1) One third of U.S. households with housing cost burden spent 30 percent or more of their income on housing costs. The situation was worse for renter households than owner households, and it was worst for renter households who had not previously owned or rented housing units before.

(2) In general, as for owner households), the previous tenure type did show an influence on the households' characteristics and housing affordability; however, it seemed that mortgage status was more influential than previous housing experiences to distinguish one owner household from others.

(3) Previous tenure types also showed influences on household characteristics and housing cost burden for renter households. Especially, renter households who had been the owners of housing units right before their current one showed significantly different characteristics compared to continuing and new renter households. Compared with other renter households, they tended to be older, have a higher income, the greatest education level, and the greatest proportion of households headed by a person widowed, divorced, or separated, and spent more for housing but have less housing cost burden).

(4) To see the multiple regression analysis results, households with different current and previous tenure types had different factors that influenced their housing cost burden. In addition, household characteristics, such as household size, number of children under 18 years of age, gender, educational attainment and race of householders, were found to have a significant influence on housing cost burdens in portion to cost-related variables such as mortgage payments and rent per square footage.

### *Implications*

Combining the findings could lead to implications for policy and program development. Improvements could be made that focus on two population groups. First, housing assistance for young households seems to be required for them to afford rental-housing payments or mortgage payments without parental or family member assistance. New homeowners and new renter households who had never owned or rented a housing unit tended to have a greater housing cost burden. Considering householders of those groups tended to be younger than other households, the main reason for their housing cost burden might be the lack of innate financial ability. Short-term rental assistance for these groups until their economic situation stabilizes might be suitable to support their housing affordability in addition to current on-going first-time homebuyer assistance programs in many states and counties.

Second, educational programs for household financial management may be beneficial to homeowners who currently make mortgage payments. It was found that households with lower educational levels had a greater housing cost burden. It could be interpreted that household financial management skills obtained through education might have been helpful for households to maintain financial and housing stability. Various state and local institutions as well as groups including Extension programs currently provide family finance management education programs. These types of education programs should be strengthened to help households make smart financial choices even in times of economic hardships and maintain mortgage payments to avoid foreclosure.

### *Limitations and Suggestions*

This study used 2009 AHS public-use microdata that represented 0.05% of households residing in the total occupied housing units in 2009. One of the significant factors that distinguish this study from previous housing affordability studies was that it used previous tenure types in addition to current tenure types in the classification of households to see if previous housing experiences influenced housing

affordability. Especially, differentiating renters, who were previously homeowners, from the other renters was one of the main reasons to include previous tenure types as a household classification criterion. Subsequently, it was found that owner and renter households with different housing experiences showed significant group differences in all variables for household and housing characteristics included in the analyses and in factors that influenced housing affordability. Most of all, renter households, who were previously homeowners, were found to have significantly distinctive characteristics and housing affordability levels compared to the rest of renter households. This supports the initial idea of this study to explore renter households who were previous owner households and might have difference characteristics and housing affordability levels.

There might be a limitation to generalize the findings of this study to entire households in the United States as the households included in the AHS represents only 0.05 percent of entire U.S. households. The sample of the AHS was selected based on reliable judgment criteria developed by HUD; however, the households included in the data were believed to hold some level of representativeness to total U.S. households.

Another limitation of this study lies in uses of previous tenure type in the study. It was impossible to obtain full tenure history information from the 2009 AHS microdata publicized and the tenure type of housing unit before the current units were used as a tenure type. Subsequently, if the current rental-housing unit was second or a later housing unit after a household dropped their homeownership, the household was classified as a continuing renter household regardless of its tenure history. In addition, there could be different reasons for homeowners to return as renters. Some may choose to return as a renter for financial reasons including property foreclosure or as a lifestyle choice. Depending on the main reason to return as renters, the household may show different characteristics that may lead to different levels of housing affordability. To obtain more meaningful outcomes to understand housing choices and their impact on housing affordability, it



is suggested that future studies on the housing affordability of renter households include tenure history and the main reasons to become renters rather than mixing them into two simple categories of tenure or owner and renter.

## REFERENCES

- Acquaye, L. (2011). Low-income homeowners and the challenges of home maintenance. *Community Development, 42*(1), 16-33.
- Collison, R., & Winter, B. (2010). *U.S. rental housing characteristics: Supply, Vacancy, and Affordability*. HUD PD&R Working Paper 10-01. Retrieved from [http://papers.ssrn.com/sol3/Delivery.cfm/SSRN\\_ID1583176\\_code886564.pdf?abstractid=1583176&mirid=4](http://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID1583176_code886564.pdf?abstractid=1583176&mirid=4)
- DeVaney, S. A., Chiremba, S., & Vincent, A. (2004). Life cycle stage and housing cost burden. *Financial Counseling and Planning, 15*(1), 31-39.
- Harkness, J., & Newman, S. J. (2005). Housing affordability and children's wellbeing: Evidence from the national survey of America's families. *Housing Policy Debate, 16*(2), 223-255.
- Joint Center for Housing Studies of Harvard University. (2011). *The state of the nation's housing 2011*. Retrieved from <http://www.jchs.harvard.edu/research/publications/state-nation%E2%80%99s-housing-2011>
- Lee, H. (2012). Housing cost burden of single- or two-person households in their 20s and 30s in the United States. *Journal of the Korean Housing Association, 23*(2), 69-77.
- Morris, E. W., & Winter, M. (1975). A theory of family housing adjustment. *Journal of Marriage and the Family, 37*, 79-88.
- Moris, E. W., & Winter, M. (1978). *Housing, family and society*. New York: John Wiley & Sons, Inc.
- Newman, S. J. (2008). Does housing matter for poor families? A critical summary of research and issues still to be resolved. *Journal of Policy Analysis and Management, 27*(4), 895-925.
- Pollack, C. E., Griffin, B. A., & Lynch, J. (2010). Housing affordability and health among homeowners and renters. *American Journal of Preventive Medicine, 39*(6), 515-521.
- RealtyTrac®. (2012). *2011 Year-end foreclosure report: Foreclosures on the retreat*. Retrieved from <http://www.realtytrac.com/content/foreclosure-market-report/2011-year-end-foreclosure-market-report-6984>
- Schwartz, A. F. (2010). *Housing policy in the United States* (2<sup>nd</sup> Ed.). New York: Routledge.
- Turk, M. (2004). The question of rent: The emerging urban housing crisis in the new century. *International Journal of Urban and Regional Research, 28*(4), 909-918.
- U.S. Census Bureau. (2011). *American Housing Survey for the United States: 2009*. Current housing reports (Series H150/09). Washington D.C.: U.S. Government Printing Office. Retrieved from <http://www.census.gov/prod/2011pubs/h150-09.pdf>
- U.S. Department of Housing and Urban Development. (2011). *Codebook for the American Housing Survey, public use file: 1977 and later*. Retrieved from [http://www.huduser.org/portal/datasets/ahs/AHS\\_Codebook.pdf](http://www.huduser.org/portal/datasets/ahs/AHS_Codebook.pdf)
- Williamson, A. R. (2011). Can they afford the rent? Resident cost burden in Low Income Housing Tax Credit developments. *Urban Affairs Review, 47*(6), 775-799.

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